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METHOD FOR TESTING SOILS AND WATERS FOR CONDUCTIVITY

CAUTION: Prior to handling test materials, performing equipment setups, and/or conducting this method, testers are required to read "**SAFETY AND HEALTH**" in Section E of this method. It is the responsibility of whoever uses this method to consult and use departmental safety and health practices and determine the applicability of regulatory limitations before any testing is performed.

A. SCOPE

This method describes a procedure for determining if a soil or water has sufficient soluble salts to warrant further testing under California Tests 417 and 422.

B. APPARATUS AND MATERIALS

1. A conductivity meter and cell with a known cell constant of approximately 1.0
2. Distilled or de-ionized water
3. A 500-mL Erlenmeyer flask
4. A 500-mL graduated cylinder

C. TEST PROCEDURE FOR SOILS

1. Weigh 100 g of soil into a 500-mL Erlenmeyer flask. Add 300 mL of distilled water. Place a stopper on the flask and shake the flask vigorously for 15 min. Centrifuge the sample, filter the sample, or let the sample settle overnight.
2. Decant sufficient liquid to allow resistance measurements to be made; follow the manufacturer's instructions for the type of conductance meter and cell being used.
3. Rinse the cell with the liquid from the sample being tested until the resistance measurement remains constant.
4. Check the cell-constant periodically, especially when readings appear erratic.

5. Record the conductivity, in $\mu\text{mhos/cm}$, on an appropriate test form.

D. TEST PROCEDURE FOR WATERS

1. Make conductivity measurements by following the manufacturer's instructions for the type of conductance meter and cell being used.
2. Rinse the cell with water from the sample being tested until the conductivity measurement remains constant.
3. Record the conductivity in $\mu\text{mhos/cm}$ on the appropriate test form.

E. SAFETY AND HEALTH

Prior to handling, testing or disposing of any of waste materials, testers are required to read: Part A (Section 5.0), Part B (Sections: 5.0, 6.0, 10.0 and 12.0) and Part C (Section 1.0) of Caltrans Laboratory Safety Manual. These sections pertain to requirements for general safety principles, standard operating procedures, protective apparel, disposal of materials and how to handle spills, accidents, emergencies, etc. Users of this method do so at their own risk.

REFERENCES: California Test 417 and 422

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